09/909 474

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=> d his

     (FILE 'HOME' ENTERED AT 09:51:16 ON 22 DEC 2004)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 09:51:41 ON 22 DEC 2004
L1        420824 S SERINE OR THREONINE
L2         43962 S L1(A)KINASE?
L3            26 S HUMAN (A)L2
L4            26 DUP REM L3 (0 DUPLICATES REMOVED)
L5             0 S "H2520-59"
                 E BOYLAN J F/AU
L6           165 S E3
                 E BOWERS A J/AU
L7            23 S E3
L8           180 S L6 OR L7
L9             1 S L2 AND L8
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                   STN Express with Discover!
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 NEWS  5  NOV 30   PHAR reloaded with additional data
 NEWS  6  DEC 01   LISA now available on STN
 NEWS  7  DEC 09   12 databases to be removed from STN on December 31, 2004
 NEWS  8  DEC 15   MEDLINE update schedule for December 2004
 NEWS  9  DEC 17   ELCOM reloaded; updating to resume; current-awareness
                   alerts (SDIs) affected
 NEWS  10 DEC 17   COMPUAB reloaded; updating to resume; current-awareness
                   alerts (SDIs) affected
 NEWS  11 DEC 17   SOLIDSTATE reloaded; updating to resume; current-awareness
                   alerts (SDIs) affected
 NEWS  12 DEC 17   CERAB reloaded; updating to resume; current-awareness
                   alerts (SDIs) affected
 NEWS  13 DEC 17   THREE NEW FIELDS ADDED TO IFIPAT/IFIUDB/IFICDB

 NEWS EXPRESS  OCTOBER 29 CURRENT WINDOWS VERSION IS V7.01A, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
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                                                   ENTRY    SESSION
FULL ESTIMATED COST                                 0.21       0.21

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FILE 'LIFESCI' ENTERED AT 09:51:41 ON 22 DEC 2004
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=> s serine or threonine
L1      420824 SERINE OR THREONINE

=> s l1(a)kinase?
L2       43962 L1(A) KINASE?

=> s human (a)l2
L3          26 HUMAN (A) L2

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4           26 DUP REM L3 (0 DUPLICATES REMOVED)

=> d 1-26 ibib ab

L4   ANSWER 1 OF 26  HCAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2004:515644  HCAPLUS
DOCUMENT NUMBER:          141:65052
TITLE:                    Methods for the identification, assessment, and
                          treatment of patients with proteasome inhibition
                          therapy
INVENTOR(S):              Mulligan, George; Bryant, Barbara M.; Morrissey,
                          Michael P.; Bolt, Andrew; Damokosh, Andrew I.
PATENT ASSIGNEE(S):       Millennium Pharmaceuticals, Inc., USA
SOURCE:                   PCT Int. Appl., 178 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
     WO 2004053066         A2    20040624    WO 2003-US38539         20031204
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
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PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,
TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2004156854 A1 20040812 US 2003-728055 20031204
PRIORITY APPLN. INFO.: US 2002-431514P P 20021206

AB The present invention is directed to the identification of markers that can be used to determine whether patients with cancer are clin. responsive or non-responsive to a therapeutic regimen prior to treatment. In particular, the present invention is directed to the use of certain combinations of markers, wherein the expression of the markers correlates with responsiveness or non-responsiveness to a therapeutic regimen comprising proteasome inhibition. Thus, by examining the expression levels of individual markers and those comprising a marker set, it is possible to determine whether a therapeutic agent, or combination of agents, will be most likely to reduce the growth rate of tumors in a clin. setting.

L4 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:371153 HCAPLUS
DOCUMENT NUMBER: 140:371494
TITLE: Binary prediction tree modeling with many predictors and its uses in clinical and genomic applications
INVENTOR(S): Nevins, Joseph R.; West, Mike; Huang, Andrew T.
PATENT ASSIGNEE(S): Duke University, USA
SOURCE: PCT Int. Appl., 886 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004038376	A2	20040506	WO 2003-US33946	20031024
WO 2004038376	A3	20040826		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2004038376	A2	20040506	WO 2003-XA33946	20031024
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2004038376	A2	20040506	WO 2003-XB33946	20031024
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ,				

OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ,
BY, KG, KZ, MD
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2002-420729P	P	20021024
US 2002-421062P	P	20021025
US 2002-421102P	P	20021025
US 2002-424701P	P	20021108
US 2002-424715P	P	20021108
US 2002-424718P	P	20021108
US 2002-425256P	P	20021112
US 2003-448461P	P	20030221
US 2003-448462P	P	20030221
US 2003-457877P	P	20030327
US 2003-458373P	P	20030331
WO 2003-US33946	A	20031024

AB The statistical anal. described and claimed is a predictive statistical tree model that overcomes several problems observed in prior statistical models and regression analyses, while ensuring greater accuracy and predictive capabilities. Although the claimed use of the predictive statistical tree model described herein is directed to the prediction of a disease in individuals, the claimed model can be used for a variety of applications including the prediction of disease states, susceptibility of disease states or any other biol. state of interest, as well as other applicable non-biol. states of interest. This model first screens genes to reduce noise, applies kmeans correlation-based clustering targeting a large number of clusters, and then uses singular value decompns. (SVD) to extract the single dominant factor (principal component) from each cluster. This generates a statistically significant number of cluster-derived singular factors, that are referred to as metagenes, that characterize multiple patterns of expression of the genes across samples. The strategy aims to extract multiple such patterns while reducing dimension and smoothing out gene-specific noise through the aggregation within clusters. Formal predictive anal. then uses these metagenes in a Bayesian classification tree anal. This generates multiple recursive partitions of the sample into subgroups (the 'leaves' of the classification tree), and assocs. Bayesian predictive probabilities of outcomes with each subgroup. Overall predictions for an individual sample are then generated by averaging predictions, with appropriate wts., across many such tree models. The model includes the use of iterative out-of-sample, cross-validation predictions leaving each sample out of the data set one at a time, refitting the model from the remaining samples and using it to predict the hold-out case. This rigorously tests the predictive value of a model and mirrors the real-world prognostic context where prediction of new cases as they arise is the major goal.

L4 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:	2003:356640 HCAPLUS
DOCUMENT NUMBER:	138:380471
TITLE:	Genes that are differentially expressed during erythropoiesis and their diagnostic and therapeutic uses
INVENTOR(S):	Brissette, William H.; Neote, Kuldeep S.; Zagouras, Panayiotis; Zenke, Martin; Lemke, Britt; Hacker, Christine
PATENT ASSIGNEE(S):	Pfizer Products Inc., USA; Max-Delbrueck-Centrum Fuer Molekulare Medizin
SOURCE:	PCT Int. Appl., 285 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English

FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003038130	A2	20030508	WO 2002-US34888	20021031
WO 2003038130	A3	20040212		
WO 2003038130	C1	20040422		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2003038130	A2	20030508	WO 2002-XA34888	20021031
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2004014064	A1	20040122	US 2002-285366	20021031
EP 1446507	A2	20040818	EP 2002-798424	20021031
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				

PRIORITY APPLN. INFO.:		
US 2001-335048P	P	20011031
US 2001-335183P	P	20011102
WO 2002-US34888	A	20021031

AB The present invention provides mol. targets that regulate erythropoiesis. Groups of genes or their encoded gene products comprise panels of the invention and may be used in therapeutic intervention, therapeutic agent screening, and in diagnostic methods for diseases and/or disorders of erythropoiesis. The panels were discovered using gene expression profiling of erythroid progenitors with Affymetrix HU6800 and HG-U95Av2 chips. Cells from an in vitro growth and differentiation system of SCF-Epo dependent human erythroid progenitors, E-cadherin+/CD36+ progenitors, cord blood, or CD34+ peripheral blood stem cells were analyzed. The HU6800 chip contains probes from 13,000 genes with a potential role in cell growth, proliferation, and differentiation and the HG-U95Av2 chip contains 12,000 full-length, functionally-characterized genes. This abstract record is one of two records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.

L4 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:	2003:221864 HCAPLUS
DOCUMENT NUMBER:	138:249732
TITLE:	Gene expression profiling for identification of disease genes for use in drug screening and therapy
INVENTOR(S):	Bristow, Michael R.; Minobe, Wayne A.; Lowes, Brian D.; Perryman, Benjamin M.
PATENT ASSIGNEE(S):	The Regents of the University of Colorado, USA
SOURCE:	PCT Int. Appl., 74 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003023066	A1	20030320	WO 2002-US28808	20020911
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003096782	A1	20030522	US 2002-241368	20020911
EP 1434876	A1	20040707	EP 2002-757676	20020911
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				

PRIORITY APPLN. INFO.: US 2001-318854P P 20010911
WO 2002-US28808 W 20020911

AB A method for identifying genes involved in development, progression, and/or maintenance of a disease comprises comparison of gene expression profiles of samples from healthy and diseased subjects and/or from treated and untreated diseased subjects. The methods may be applied to the identification of genes involved in cardiac disease states. Through the identification of new targets, addnl. methods for drug screening and therapy also are provided. Thus, the method was applied to patients exhibiting dilated cardiomyopathy and those with the disease after treatment with β-blockers. One hundred thirty six genes which were up- or down-regulated were identified.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:777245 HCAPLUS
DOCUMENT NUMBER: 139:287957
TITLE: Regulation of HIV-Tat and NEF by PAK4 kinase and its binding partners and methods of identifying modulators thereof
INVENTOR(S): Melnick, Michael B.; Moritz, Albrecht; Comb, Michael J.
PATENT ASSIGNEE(S): Cell Signaling Technology, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 47 pp., Cont.-in-part of U.S. Ser. No. 750,457, abandoned.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003186254	A1	20031002	US 2002-134102	20020429

PRIORITY APPLN. INFO.: US 1999-173939P P 19991230
US 2000-750457 B2 20001228

AB The present invention discloses complexes of cellular signaling proteins that interact in vivo with the HIV-encoded auxiliary proteins Nef and Tat to modulate their activity. This complex includes the novel serine/threonine kinase PAK4 and the novel guanine nucleotide exchange factor Cdc42-GEF, which synergize to stimulate Tat transcriptional

activity, and the acetyl-transferase Tip60 which modifies Nef. These cellular partners of the HIV auxiliary proteins represent novel targets for HIV therapeutics. The invention provides isolated DNA and vectors encoding PAK4 and Cdc42-GEF, and methods of producing recombinant forms of these proteins. The invention also provides methods for identifying compds. that modulate the activity of HIV-Tat, HIV-Nef or Tip60, and methods for modulating the activity of these enzymes.

L4 ANSWER 6 OF 26 BIOTECHDS COPYRIGHT 2004 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2002-09615 BIOTECHDS
TITLE: **Human serine kinase** receptor 10.34 and encoding polynucleotide, used in diagnosis and treatment of malignant tumors, hemopathy, human immunodeficiency virus infection, immunological diseases and inflammation;
plasmid and virus vector-mediated recombinant protein gene transfer and expression in host cell, DNA microarray, DNA chip, antisense and antibody for cancer and HIV virus infection diagnosis and genetherapy
AUTHOR: MAO Y; XIE Y
PATENT ASSIGNEE: SHANGHAI BIOWINDOW GENE DEV INC
PATENT INFO: WO 2002012486 14 Feb 2002
APPLICATION INFO: WO 2000-CN1071 30 Jun 2000
PRIORITY INFO: CN 2000-116976 30 Jun 2000
DOCUMENT TYPE: Patent
LANGUAGE: German
OTHER SOURCE: WPI: 2002-164859 [21]
AB DERWENT ABSTRACT:
NOVELTY - An isolated polypeptide (I) of **Human serine kinase** receptor 10.34 containing a 94 residue amino acid sequence (S1), fully defined in the specification, or its fragment, analog or derivative, is new. Detailed Description

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) an isolated polynucleotide (II): (a) encoding (S1), or its fragment, analog or derivative; (b) complementary to (a); or (c) not less than 70 % homologous to (a) or (b); (2) a recombinant vector (III) containing an exogenous polynucleotide constructed from (II) and a plasmid, virus vector-expressing vector;(3) a genetically-modified host cell (IV) comprising (II) or (III); (4) producing (I) by culturing (IV) before isolating the product; (5) an antibody that specifically binds (I); (6) mimics or regulators of (I) activity or expression, preferably compounds that can mimic, promote, antagonize or inhibit **Human serine kinase** receptor 10.34; (7) using the compounds of (6) for regulating (I) in vivo or in vitro; (8) detecting diseases relating to the novel polypeptide or disease susceptibility, by measuring the expression dose of (I), determining (I) activity, or detecting (I) expression dose caused by the polynucleotide that has abnormal activity due to a (II) mutation; (9) using (I) for screening mimics, agonists, antagonists or inhibitors, or for use in peptide fingerprinting identification; (10) using (II) as a primer for nucleic acid amplification reaction or as a probe for hybridization reaction, or in producing gene chips or microarrays; and (11) drug compositions for diseases relating to the (I) containing (I), (II), or mimics, agonists, antagonists, or inhibitors and their preparation in safe amounts with pharmaceutically-acceptable carrier, which can be used as diagnostics as well.

BIOTECHNOLOGY - Preferred Polypeptide: (I) is particularly one with not less than 95 % homology to (S1), especially one with an amino-acid sequence of (S1). Preferred Polynucleotide: (II) encodes the polypeptide of (S1), and contains a sequence with bases 965-1249, or bases 1-1907 of a 1907 nucleotide sequence (S2), fully defined in the specification. Preferred Compound: The compound is particularly a polynucleotide of (S2), or an antisense of its fragment.

ACTIVITY - Cytostatic; hemostatic; virucide; immunomodulatory;

antiinflammatory. No biological data is given.
MECHANISM OF ACTION - Gene therapy. No biological data is given.
USE - (I) and (II) are used in diagnosis and treatment of malignant tumor, hemopathy, human immunodeficiency virus (HIV) infection, immunological diseases and various inflammations (claimed).
ADMINISTRATION - Administration is non-oral, particularly by injection. No dosage is suggested.
EXAMPLE - Cloning of **Human serine kinase** receptor 10.34 was performed by using human fetal RNA and then further studies were carried out.(34 pages)

L4 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:575214 HCAPLUS
DOCUMENT NUMBER: 137:136129
TITLE: Human protein kinase and the cDNA and genomic DNA encoding the protein kinase
INVENTOR(S): Beasley, Ellen M.; Ye, Jane; Yan, Chunhua; Ketchum, Karen A.; Di Francesco, Valentina
PATENT ASSIGNEE(S): PE Corporation (NY), USA
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002059288	A2	20020801	WO 2002-US930	20020115
WO 2002059288	A3	20030410		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003022337	A1	20030130	US 2001-819607	20010329
US 6686176	B2	20040203		
CA 2435508	AA	20020801	CA 2002-2435508	20020115
EP 1356027	A2	20031029	EP 2002-705765	20020115
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2004067568	A1	20040408	US 2003-633631	20030805

PRIORITY APPLN. INFO.:		
US 2001-263162P	P	20010123
US 2001-819607	A	20010329
WO 2002-US930	W	20020115

AB The present invention provides the amino acid sequence a human protein, and encoding gene and cDNA sequences, that shows a particularly high degree of similarity to the the serine/threonine protein kinase EVC gene which is associated with Ellis-van Creveld syndrome and Weyers acrodental dysostosis. Exptl. data indicates expression in humans in prostate, lung, and whole brain. The present invention specifically provides isolated peptide and nucleic acid mols., methods of identifying orthologs and paralogs of the kinase peptides, and methods of identifying modulators of the kinase peptides.

L4 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:730430 HCAPLUS
DOCUMENT NUMBER: 137:259334
TITLE: Protein and cDNA sequences of two novel human serine

protein kinases expressed in brain and pancreas
INVENTOR(S): Shu, Youmin; Fan, Wufang; Kovacs, Karl F.; Zidanic, Michael; Jay, Gilbert
PATENT ASSIGNEE(S): Origene Technologies, Inc, USA
SOURCE: U.S., 34 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6455292	B1	20020924	US 2001-930181	20010816
US 2003092036	A1	20030515	US 2002-195072	20020715
US 2003096271	A1	20030522	US 2002-195071	20020715
WO 2003016485	A2	20030227	WO 2002-US26129	20020816

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-930181 A1 20010816

AB The present invention provides protein and cDNA sequences of two novel human serine protein kinases (KSE336-1 and KSE336-2) expressed in brain and pancreas. The present invention relates to all facets of novel polynucleotides, the polypeptides they encode, antibodies and specific binding partners thereto, and their applications to research, diagnosis, drug discovery, therapy, clin. medicine, forensic science, pathol., and medicine. The polynucleotides are expressed in brain and pancreas and are therefore useful in variety of ways, including, but not limited to, as mol. markers, as drug targets, and for detecting, diagnosing, staging, monitoring, prognosticating, preventing or treating, determining predisposition to diseases and conditions, especially relating to brain and pancreas.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:779935 HCAPLUS
DOCUMENT NUMBER: 137:258603
TITLE: **Human serine kinase** receptor-like protein, protein and cDNA sequences, recombinant production and therapeutic uses
INVENTOR(S): Mao, Yumin; Xie, Yi
PATENT ASSIGNEE(S): Bode Gene Development Co., Ltd., Shanghai, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 34 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1331241	A	20020116	CN 2000-116976	20000630
WO 2002012486	A1	20020214	WO 2001-CN1071	20010629

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CO,

CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO,
RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 2002014912 A5 20020218 AU 2002-14912 20010629
PRIORITY APPLN. INFO.: CN 2000-116976 A 20000630
WO 2001-CN1071 W 20010629

AB The invention relates to a **human serine kinase** receptor-like protein, designated as serine kinase receptor 10.34. The open reading frame of the cDNA encodes a protein with 94 amino acids, and an estimated mol. weight of 10 kilodalton based on SDS-PAGE. The invention provides the use of polypeptide and polynucleotide in a method for treatment of various kinds of diseases, such as cancer, blood disease, HIV infection, immune diseases, growth disease, and inflammation. The invention also relates to methods, expression vectors and host cells for recombinant production of said serine kinase receptor 10.34. The invention also relates to agonist and antagonist of said serine kinase receptor 10.34 and uses in therapy. The invention found that the expression profile of said serine kinase receptor 10.34 in some animal cell lines and tissues was similar to that of **human serine kinase** receptor SKR1.

L4 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:640474 HCAPLUS
DOCUMENT NUMBER: 138:22553
TITLE: Human TPX2 is required for targeting Aurora-A kinase to the spindle
AUTHOR(S): Kufer, Thomas A.; Sillje, Herman H. W.; Korner, Roman; Gruss, Oliver J.; Meraldi, Patrick; Nigg, Erich A.
CORPORATE SOURCE: Department of Cell Biology, Max Planck Institute of Biochemistry, Martinsried, D-82152, Germany
SOURCE: Journal of Cell Biology (2002), 158(4), 617-623
CODEN: JCLBA3; ISSN: 0021-9525
PUBLISHER: Rockefeller University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Aurora-A is a serine-threonine kinase implicated in the assembly and maintenance of the mitotic spindle. Here we show that human Aurora-A binds to TPX2, a prominent component of the spindle apparatus TPX2 was identified by mass spectrometry as a major protein coimmunopptg. specifically with Aurora-A from mitotic HeLa cell exts. Conversely, Aurora-A could be detected in TPX2 immunoppts. This indicates that subpopulations of these two proteins undergo complex formation in vivo. Binding studies demonstrated that the N-terminal of TPX2 can directly interact with the COOH-terminal catalytic domain of Aurora-A. Although kinase activity was not required for this interaction, TPX2 was readily phosphorylated by Aurora-A. Upon siRNA-mediated elimination of TPX2 from cells, the association of Aurora-A with the spindle microtubules was abolished, although its association with spindle poles was unaffected. Conversely, depletion of Aurora-A by siRNA had no detectable influence on the localization of TPX2. We propose that human TPX2 is required for targeting Aurora-A kinase to the spindle apparatus In turn, Aurora-A might regulate the function of TPX2 during spindle assembly.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:784251 HCAPLUS
DOCUMENT NUMBER: 132:19663
TITLE: human Pak4 novel gene encoding a serine/threonine

kinase useful as tumor cell inhibitor and active in induction of filopodia and actin cytoskeleton polymerization

INVENTOR(S): Minden, Audrey

PATENT ASSIGNEE(S): The Trustees of Columbia University In the City of New York, USA

SOURCE: PCT Int. Appl., 96 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9963073	A1	19991209	WO 1999-US11341	19990521
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6013500	A	20000111	US 1998-82737	19980521
AU 9940947	A1	19991220	AU 1999-40947	19990521
US 6667168	B1	20031223	US 2000-718032	20001121
US 2004091992	A1	20040513	US 2003-693367	20031024

PRIORITY APPLN. INFO.:

US 1998-82737	A2	19980521
WO 1999-US11341	W	19990521
US 2000-718032	A3	20001121

AB This invention provides an isolated mammalian nucleic acid mol. encoding a PAK4 serine/threonine kinase. This invention provides an isolated nucleic acid mol. encoding a mutant homolog of the mammalian PAK4 serine/threonine kinase whose amino acid sequence is set forth. This invention provides a fusion protein comprising a PAK4 serine/threonine kinase or a fragment thereof and a second peptide. This invention provides a purified mammalian PAK4 serine/threonine kinase. This invention provides a protein comprising substantially the amino acid sequence set forth in Figure 1A. This invention provides a monoclonal antibody directed to an epitope of a PAK4 serine/threonine kinase. This invention provides a method of inhibiting PAK4 function comprising administering a ligand comprising an amino acid domain which binds to a GTP binding protein so as to inhibit binding of the GTP binding protein to PAK4. This invention provides a method of inhibiting PAK4 function comprising administering a ligand which binds to the GTP binding domain of PAK4 so as to inhibit PAK4 binding to a GTP binding protein. This invention provides a method of inhibiting PAK4 serine/threonine kinase function comprising administering a ligand which blocks an ATP binding domain so as to inhibit PAK4 serine/threonine kinase function. This invention provides a method of inhibiting growth of a tumor cell comprising blocking Cdc42Hs by administering a ligand capable of binding to a Cdc42Hs binding site of a PAK4 serine/threonine kinase. PAK4 was shown to interact with activated Cdc42Hs through GBD/CRIB domain and is recruited to the Golgi. PAK4 is involved with the actin cytoskeleton and activation of the JNK pathway. PAK4 induces actin polymerization and induces formation of filopodia. PAK4 is used as a tumor cell inhibitor for cancer or arthritis. Mouse cDNA and protein fragments are also listed..

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 26 HCAPLUS

ACCESSION NUMBER: 1999:421789 HCAPLUS
DOCUMENT NUMBER: 131:55792
TITLE: Cloning of cDNA for human STE20-like signal transduction serine/threonine kinase
INVENTOR(S): Norris, Tyrell Errick; Moore, William Craig; Silberstein, David Shay
PATENT ASSIGNEE(S): Zeneca Limited, UK
SOURCE: PCT Int. Appl., 111 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9932637	A1	19990701	WO 1998-GB3793	19981217
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9916766	A1	19990712	AU 1999-16766	19981217
EP 1040194	A1	20001004	EP 1998-961306	19981217
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002516064	T2	20020604	JP 2000-525556	19981217
PRIORITY APPLN. INFO.:			GB 1997-26851 A	19971219
			WO 1998-GB3793 W	19981217

AB A human signal-transduction kinase polypeptide is described which is expressed at a particularly high level in tissues of the human immune system. A full length cDNA which encodes a Ste20-like signal transduction serine/threonine kinase polypeptide is disclosed as well as the interior structural region and the amino acid residue sequence of the native biol. mol. Methods are provided to identify compds. that modulate the biol. activity of the human Ste20-like signal transduction serine/threonine kinase. Also described are antisense nucleic acid sequences capable of inhibiting expression of the kinase, a pharmaceutical composition containing a compound capable of modulating the the kinase activity, and a diagnostic kit containing antibodies to the kinase or PCR primers derived from the encoding cDNA.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:513247 HCAPLUS
DOCUMENT NUMBER: 129:240625
TITLE: Human ULK1, a novel serine/threonine kinase related to UNC-51 kinase of Caenorhabditis elegans: cDNA cloning, expression, and chromosomal assignment
AUTHOR(S): Kuroyanagi, Hidehito; Yan, Jin; Seki, Naohiko; Yamanouchi, Yasuko; Suzuki, Yo-ichi; Takano, Takako; Muramatsu, Masa-aki; Shirasawa, Takuji
CORPORATE SOURCE: Department of Mol. Genetics, Tokyo Metropolitan Inst. of Gerontology, Tokyo, 173-0015, Japan
SOURCE: Genomics (1998), 51(1), 76-85
CODEN: GNMCEP; ISSN: 0888-7543
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The unc-51 gene, isolated from mutants of Caenorhabditis elegans

exhibiting abnormal axonal extension and growth, encodes a novel serine/threonine kinase (K. Ogura, et al., 1994, Genes Dev. 8: 2389-2400). Here we report the mol. cloning and characterization of the human homolog of UNC-51, designated ULK1, for UNC-51 (C. elegans)-like kinase 1. Sequence anal. of the human ULK1 cDNA showed that an open reading frame is composed of 1050 amino acids with a calculated MW of 112.6 kDa and a pI of 8.80. Homol. search anal. showed that ULK1 has 41% overall similarity to UNC-51 and 29% similarity to Apg1p of Saccharomyces cerevisiae. Phylogenetic anal. of ULK1, UNC-51, and Agg1p suggested that they constitute a novel subfamily of serine/threonine kinases. Southern blot analyses suggested that the ULK1 gene spans 30-40 kb in the human genome as a single-copy gene. Zoo blot anal. indicated that ULK1 kinase is conserved among vertebrates including mammals, birds, reptiles, amphibians, and fish. Northern blot anal. revealed that ULK1 is ubiquitously expressed in adult human tissues such as skeletal muscle, heart, pancreas, brain, placenta, liver, kidney, and lung, whereas UNC-51 is specifically detected in the nervous system of C. elegans. Both FISH and RH mapping confirmed the regional localization of ULK1 to human chromosome 12q24.3.

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:310757 HCAPLUS

DOCUMENT NUMBER: 126:288101

TITLE: **Human serine kinase** PSKH-1 cDNA sequence, ribozymes that cleave PSKH-1 mRNA, and therapeutic uses in treating diseases related to abnormal cell proliferation

INVENTOR(S): Prydz, Hans Peter Blankenborg; Brede, Gaute

PATENT ASSIGNEE(S): Prydz, Hans Peter Blankenborg, Norway; Brede, Gaute

SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9711163	A1	19970327	WO 1996-NO220	19960918
W: AU, CA, JP, NO, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2232301	AA	19970327	CA 1996-2232301	19960918
AU 9672301	A1	19970409	AU 1996-72301	19960918
AU 709027	B2	19990819		
EP 862619	A1	19980909	EP 1996-933666	19960918
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 5856463	A	19990105	US 1996-715568	19960918
JP 2002515726	T2	20020528	JP 1997-512614	19960918
PRIORITY APPLN. INFO.:			NO 1995-3680 A	19950918
			WO 1996-NO220 W	19960918

AB Disclosed is a purified full-length cDNA mol. encoding putative serine kinase enzyme (PSKH-1), and the expression of the cDNA in a recombinant host cell to produce substantially purified PSKH-1. Inactivation of PSKH-1 pre-mRNA or PSKH-1 mRNA halts DNA synthesis and cell division. Also disclosed are ribozymes capable of cleaving PSKH-1 pre-mRNA or mRNA and thus deactivating PSKH-1 translation. Ribozymes of the hammerhead and hairpin motifs, and various compns. containing same, are also disclosed. The ribozymes compns. are used in the treatment of mammalian patients suffering from diseases or medical conditions characterized by abnormal cell proliferation or growth such as cancer and various non-malignant diseases or medical conditions such as autoimmune diseases, allograft

rejection and atherosclerosis.

L4 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:498524 HCAPLUS
DOCUMENT NUMBER: 125:215535
TITLE: prk, A cytokine-inducible human protein serine/threonine kinase whose expression appears to be down-regulated in lung carcinomas
AUTHOR(S): Li, Bo; Ouyang, Bin; Pan, Huiqi; Reissmann, Peter T.; Slamon, Dennis J.; Arceci, Robert; Lu, Luo; Dai, Wei
CORPORATE SOURCE: Div. Hematol. Oncol., Univ. Cincinnati Coll. Med., Cincinnati, OH, 45267, USA
SOURCE: Journal of Biological Chemistry (1996), 271(32), 19402-19408
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors have cloned and characterized a putative protein serine/threonine kinase termed prk through a combination of polymerase chain reaction and conventional cDNA library screening approaches. There are apparently two distinct domains within prk protein deduced from its nucleotide sequences. The amino-terminal portion has the feature of the catalytic domain of a serine/threonine kinase and shows strong homol. to mouse fnk and other polo family kinases including mouse snk, human and murine plk, Drosophila polo, and yeast Cdc5. The carboxyl-terminal portion, presumably the regulatory domain, shares extensive homol. to mouse fnk. Northern blotting analyses reveal that prk expression is restricted to a very limited number of tissues with placenta, ovaries, and lung containing detectable amts. of prk mRNA. Prk mRNA expression is also detected at a low level in the megakaryocytic cell line Dami, MO7e, and three brain glioma cell lines. In addition, refeeding of serum-deprived MO7e, Dami, and K562 cells of hematopoietic origin and GMO0637D of lung fibroblasts rapidly activates prk mRNA expression with its peak induction around 2 h after serum addition Prk gene activation by the serum requires no new protein synthesis. The recombinant cytokines such as interleukin-3 and thrombopoietin also activate prk mRNA expression in MO7e cells. Furthermore, a survey of RNAs isolated cancer patients reveals that prk mRNA expression is significantly down-regulated in tumor tissues. Southern blotting anal. indicates that the prk gene is present in a single copy in the genome of tumors and normal cells. Taken together, these results suggest that prk expression may be restricted to proliferating cells and involved in the regulation of cell cycle progression. The mol. cloning of prk cDNA will facilitate the study of its biol. role as well as its potential role in tumorigenesis.

L4 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:312447 HCAPLUS
DOCUMENT NUMBER: 125:27254
TITLE: Cloning and characterization of GRB14, a novel member of the GRB7 gene family
AUTHOR(S): Daly, Roger J.; Sanderson, Georgina M.; Janes, Peter W.; Sutherland, Robert L.
CORPORATE SOURCE: Cancer Biol. Div., Garvan Inst. Med. Res., New South Wales, 2010, Australia
SOURCE: Journal of Biological Chemistry (1996), 271(21), 12502-12510
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Screening of a human breast epithelial cell cDNA library with the

tyrosine-phosphorylated C terminus of the epidermal growth factor receptor identified a novel member of the GRB7 gene family, designated GRB14. In addition to a pleckstrin homol. domain-containing central region homologous to the Caenorhabditis elegans protein F10E9.6/mig10 and a C-terminal Src homol. 2 (SH2) domain, a conserved N-terminal motif, P(S/A)IPNPFPEL, can now be included as a hallmark of this family. GRB14 mRNA was expressed at high levels in the liver, kidney, pancreas, testis, ovary, heart, and skeletal muscle. Anti-Brb14 antibodies recognized a protein of approx. 58 kDa in a restricted range of human cell lines. Among those of breast cancer origin, GRB14 expression strongly correlated with estrogen receptor positivity, and differential expression was also observed among human prostate cancer cell lines. A GST-Grb14 SH2 domain fusion protein exhibited strong binding to activated platelet-derived growth factor (PDGF) receptors (PDGFRs) in vitro, but association between Grb14 and β-PDGFRs could not be detected in vivo. In serum-starved cells, Grb14 was phosphorylated on serine residues, which increased with PDGF, but not EGF, treatment. Grb14 is therefore a target for a PDGF-regulated serine kinase, an interaction that does not require PDGFR-Grb14 association

L4 ANSWER 17 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:727998 HCAPLUS
DOCUMENT NUMBER: 123:277512
TITLE: A human homolog of the Drosophila tumor suppressor gene l(2)gl maps to 17p11.2-12 and codes for a cytoskeletal protein that associates with nonmuscle myosin II heavy chain
AUTHOR(S): Strand, Dennis; Unger, Sylvia; Corvi, Raffaella; Hartenstein, Kirsten; Schenkel, Heide; Kalmes, Andreas; Merdes, Gunter; Neumann, Beate; Krieg-Schneider, Frank
CORPORATE SOURCE: Dep. of Developmental Genetics, Deutsches Krebsforschungszentrum, Heidelberg, D-69120, Germany
SOURCE: Oncogene (1995), 11(2), 291-301
CODEN: ONCNES; ISSN: 0950-9232
PUBLISHER: Macmillan Scientific & Medical Division
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Inactivation of the tumor suppressor gene lethal(2) giant larvae (D-lgl) of Drosophila leads to malignant transformation of the presumptive adult optic centers in the larval brain and tumors of the imaginal disks. These malignancies result from the disorganization of a cytoskeletal network in which the D-LGL protein participates. Here we describe the isolation of a cDNA encoding the human homolog to the D-lgl gene designated as hugl. The hugl cDNA detects a locus spanning at least 25 kilobases (kb) in human chromosome band 17p11.2-12, which is centromeric to the p53 gene and recognizes a 4.5 kb RNA transcript. The hugl gene is expressed in brain, kidney and muscle but is barely seen in heart and placenta. Sequence anal. of the hugl cDNA demonstrates a long open reading frame, which has the potential to encode a protein of 1057 amino acids with a predicted mol. weight of 115 kdalton (kD). To further substantiate and identify the HUGL protein, we have prepared polyclonal rabbit antibodies against synthetic peptides corresponding to the amino and carboxyl termini of the conceptual translation product of the hugl gene. The affinity-purified anti-HUGL antibodies recognize a single protein with an apparent mol. weight of .apprx.115 kD. Similar to the Drosophila protein, HUGL is part of a cytoskeletal network and, is associated with nonmuscle myosin II heavy chain and a kinase that specifically phosphorylates HUGL at serine residues.

L4 ANSWER 18 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:318218 HCAPLUS
DOCUMENT NUMBER: 120:318218
TITLE: Induction and down-regulation of PLK, a human serine/threonine kinase expressed in proliferating cells and tumors

AUTHOR(S): Holtrich, Uwe; Wolf, Georg; Braeuninger, Andreas; Karn, Thomas; Boehme, Beatrix; Ruebsamen-Waigmann, Helga; Strebhardt, Klaus

CORPORATE SOURCE: Chemotherapeutisches Forschungsinst., Georg-Speyer-Haus, Frankfurt, 60596, Germany

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1994), 91(5), 1736-40
CODEN: PNASA6; ISSN: 0027-8424

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The authors have identified the nucleotide sequence of the cDNA encoding the human counterpart of the mouse gene Plk (polo-like kinase). The sequence of the human gene, PLK, predicts a serine/threonine kinase of 603 aa. Expression of PLK mRNA appeared to be strongly correlated with the mitotic activity of cells. Resting peripheral lymphocytes did not express the gene at all. When primary T cells were activated by phytohemagglutinin, a high level of PLK transcripts resulted within 2-3 days. In some cases, addition of interleukin 2 to these cells increased the expression of PLK mRNA further. In contrast, primary cultures of human peripheral macrophages, which were not dividing under the culture conditions applied, showed very little or no PLK mRNA. Stimulation of these cells by bacterial lipopolysaccharide, and inducer of several cytokines in macrophages, totally abrogated the expression of PLK mRNA. In line with a function of PLK mRNA expression in mitotically active cells is the authors' finding that six immortalized cell lines examined expressed the gene. In A-431 epidermoid carcinoma cells this expression was down-regulated by serum starvation and enhanced after serum was added again. Tumors of various origin (lung, colon, stomach, smooth muscle, and esophagus as well as non-Hodgkin lymphomas) expressed high levels of PLK transcripts in about 80% of the samples studied, whereas PLK mRNA was absent in surrounding tissue, except for colon. The only normal tissues where PLK mRNA expression was observed were colon and placenta, both known to be mitotically active. No PLK transcripts were found in normal adult lung, brain, heart, liver, kidney, skeletal muscle, and pancreas. In Northern blot expts. with RNA from lymphocytes which were treated with phytohemagglutinin and cycloheximide, PLK transcripts were not detectable, suggesting that PLK is not an early growth-response gene.

L4 ANSWER 19 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:264453 HCAPLUS

DOCUMENT NUMBER: 120:264453

TITLE: Prokaryotic expression cloning of a novel human tyrosine kinase

AUTHOR(S): Beeler, John F.; LaRochelle, William J.; Chedid, Marcio; Tronick, Steven R.; Aaronson, Stuart A.

CORPORATE SOURCE: Lab. Cell. Mol. Biol., Natl. Cancer Inst., Bethesda, MD, 20892, USA

SOURCE: Molecular and Cellular Biology (1994), 14(2), 982-8
CODEN: MCEBD4; ISSN: 0270-7306

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Screening of a human embryonic lung fibroblast cDNA expression library with antiphosphotyrosine antibodies led to isolation of a novel protein kinase. A clone, designated A6, contained a 3-kb cDNA insert with a predicted open reading frame of 350 amino acids. DNA sequence anal. failed to reveal any detectable similarity with previously known genes, and the predicted A6 protein lacked any of the motifs commonly conserved in the catalytic domains of protein kinases. However, the bacterially expressed β-galactosidase-A6 fusion protein demonstrated both tyrosine and serine phosphorylation in an in vitro kinase assay and phosphorylated exogenous substrates including myelin basic protein specifically on tyrosine residues. The enzyme also displayed biochem. properties analogous to those of other protein tyrosine kinases. The A6 gene was found to be expressed widely at the transcript level in normal

tissues and was evolutionarily conserved. Thus, A6 represents a novel tyrosine kinase which is highly divergent from previously described members of this important class of regulatory mols.

L4 ANSWER 20 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:48831 HCAPLUS
DOCUMENT NUMBER: 120:48831
TITLE: The human cot proto-oncogene encodes two protein serine/threonine kinases with different transforming activities by alternative initiation of translation
AUTHOR(S): Aoki, Masahiro; Hamada, Fumihiko; Sugimoto, Toshiro; Sumida, Shuji; Akiyama, Tetsu; Toyoshima, Kumao
CORPORATE SOURCE: Res. Inst. Microb. Dis., Osaka Univ., Suita, 565, Japan
SOURCE: Journal of Biological Chemistry (1993), 268(30), 22723-32
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The cot gene is an oncogene encoding serine/threonine kinases isolated by DNA transfection assay. In this study, cDNA for the human cot protooncogene (proto-cot gene) was isolated and the structure and function of its gene products were examined The proto-cot gene has an open reading frame encoding 467 amino acids of which the first 397 amino acids are identical to those in the corresponding part of the cot gene. The protein products of the proto-cot gene were identified as 58- and 52-kDa proteins with intrinsic protein serine/threonine kinase activity. These two protein species were suggested to be generated by alternative initiation from two AUGs. The 58- and 52-kDa proteins are both localized predominantly in the cytosol, but the 58-kDa protein has a shorter half-life than the 52-kDa protein, suggesting the importance of the amino-terminal domain in regulating the stability of the proto-Cot protein. More interestingly, the 58-kDa protein showed stronger transforming activity than the 52-kDa protein, although this activity was much weaker than that of the Cot oncoprotein. Thus, the amino-terminal domain of the Cot protein may be necessary for cellular transformation, whereas the carboxyl-terminal domain may neg. regulate the transforming activity.

L4 ANSWER 21 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:446503 HCAPLUS
DOCUMENT NUMBER: 119:46503
TITLE: Expression cDNA cloning of a serine kinase transforming gene
AUTHOR(S): Chan, Andrew M. L.; Chedid, Marcio; McGovern, Elizabeth S.; Popescu, Nickolas C.; Miki, Toru; Aaronson, Stuart A.
CORPORATE SOURCE: Lab. Cell. Mol. Biol., Natl. Cancer Inst., Bethesda, MD, 20892, USA
SOURCE: Oncogene (1993), 8(5), 1329-33
CODEN: ONCNES; ISSN: 0950-9232
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ectopic expression of cDNAs derived from a Ewing sarcoma cell line in NIH3T3 cells, was used to isolate a transforming gene (est). Sequence anal. revealed homol. to the cot oncogene, which encodes a novel serine kinase. Whereas the cot product was truncated at its carboxy-terminal end as a result of gene rearrangement during transfection, est encodes the normal cot product. Thus, this gene can be activated as an oncogene by overexpression as well as by gene rearrangement. NIH3T3 cells transfected with est formed progressively growing colonies in soft agar and were tumorigenic in nude mice. The 3.2-kb est transcript was expressed at low levels in both human fibroblasts and epithelial cells. Addition of the tumor promoter, okadaic acid (OA), or cytokine, interleukin 1 (IL-1), but not

serum or platelet-derived growth factor (PDGF), induced increased expression of the est transcript. Fluorescence in situ hybridization was used to localize the est gene to the short arm of human chromosome 10 at band p11.2.

L4 ANSWER 22 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:486803 HCAPLUS
DOCUMENT NUMBER: 119:86803
TITLE: Stimulation by insulin of a serine kinase in human platelets that phosphorylates and activates the cGMP-inhibited cAMP phosphodiesterase
AUTHOR(S): Lopez-Aparicio, Pilar; Belfrage, Per; Manganiello, Vincent C.; Kono, Tetsuro; Degerman, Eva
CORPORATE SOURCE: Dep. Med. Physiol. Chem., Univ. Lund, Lund, S-22100, Swed.
SOURCE: Biochemical and Biophysical Research Communications (1993), 193(3), 1137-44
CODEN: BBRCA9; ISSN: 0006-291X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors previously reported that insulin stimulation of human platelets induces serine phosphorylation and activation of the cGMP-inhibited cAMP phosphodiesterase (cGI-PDE). Here, the authors describe methods to detect and partially purify an insulin-stimulated cGI-PDE kinase (cGI-PDE ISK) from lysates of platelets incubated with insulin. Incubation of human platelets with 10-8 M insulin increased cGI-PDE ISK activity two-fold. The DEAE-Sephacel-purified cGI-PDE ISK phosphorylated the cGI-PDE on serine in a time- and concentration-dependent manner resulting in an increased incorporation of about 0.2 mol of [32P]/mol of cGI-PDE and 15-20% increase in cGI-PDE activity. The phosphorylation of cGI-PDE was not affected by 10 μM PKI, 1 μg/mL of heparin, 3 mM CaCl2 or 1 mM MnCl2. CGI-PDE ISK did not adsorb to antiphosphotyrosine antibodies. To maintain its activation it was necessary to add protein phosphatase inhibitors to the lysate-buffers. All of these findings are consistent with the conclusion that a serine/threonine phosphorylation of the cGI-PDE ISK is involved in its activation by insulin.

L4 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:96946 HCAPLUS
DOCUMENT NUMBER: 120:96946
TITLE: Cloning of a TGFβ type I receptor that forms a heteromeric complex with the TGFβ type II receptor
AUTHOR(S): Franzen, Petra; ten Dijke, Peter; Ichijo, Hidenori; Yamashita, Hidetoshi; Schulz, Peter; Heldin, Carl Henrik; Miyazono, Kohei
CORPORATE SOURCE: Biomed. Cent., Ludwig Inst. Cancer Res., Uppsala, S-751 24, Swed.
SOURCE: Cell (Cambridge, MA, United States) (1993), 75(4), 681-92
CODEN: CELLB5; ISSN: 0092-8674
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A cDNA clone encoding a 53 kDa serine/threonine kinase receptor with an overall structure similar to that of the type II receptor for transforming growth factor β (TGFβ) was obtained. 125I-TGFβ1 bound to porcine endothelial cells transfected with the cDNA and formed a cross-linked complex of 70 kDa, characteristic of a TGFβ type I receptor. Immunopptn. of the cross-linked complexes by antibodies against the cloned receptor revealed the 70 kDa complex as well as a 94 kDa TGFβ type II receptor complex. The immunopptd. novel serine/threonine kinase receptor had biochem. properties of the TGFβ type I receptor and was observed in different cell types. Transfection of

the cloned cDNA into TGFβ type I receptor-deficient cells restored TGFβ-induced plasminogen activator inhibitor I production These results suggest that signal transduction by TGFβ involves the formation of a heteromeric complex of two different serine/threonine kinase receptors.

L4 ANSWER 24 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:509916 HCAPLUS
DOCUMENT NUMBER: 117:109916
TITLE: Specific protein kinases modulated during T cell mitogenesis. Activity of a 55-kDa serine kinase is associated with growth arrest in human T cells
AUTHOR(S): Evans, Gerald A.; Linnekin, Diana; Grove, Sheldon; Farrar, William L.
CORPORATE SOURCE: Biol. Carcinog. Dev. Program, Program Resour. Inc., Frederick, MD, 21702-1201, USA
SOURCE: Journal of Biological Chemistry (1992), 267(15), 10313-17
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The intracellular events which are involved in controlling the G1 to S phase transition during the eukaryotic cell cycle are important to define in order to understand the mechanisms by which mitogenic and growth arrest-inducing agents control cell growth. Because a change in protein kinase activity is associated with the initial response of cells to mitogenic stimulants and growth factors, a kinase renaturation assay was used to identify specific protein kinases which are modulated as human T cells make the G1 to S phase transition after mitogenic stimulation with lectin. Four protein serine/threonine kinases of 180, 97, 85, and 38 kilodaltons were identified which are increased in activity as these cells enter S phase. A 55 kDa serine/threonine kinase (PK55) was shown to have maximal activity during G0 and its activity was reduced by 95% upon movement into S phase. PK55 is inducible in human T cells by removal of interleukin 2 and low serum incubation which arrests cells in G1 phase, indicating that it is closely associated with G1 phase growth arrest. Furthermore, a similar PK55 activity was induced upon growth arrest in HL-60 cells treated with DMSO and in Daudi cells treated with interferon α. Because the cAMP-dependent protein kinase (PK-A) family has been shown to be antiproliferative to lectin stimulated T cells, it was examined whether PK55 was in fact an isoenzyme of PK-A. Comparative anal. using a specific peptide inhibitor of PK-A activity revealed that PK55 is catalytically distinct from PK-A. Thus, increases in PK55 may be associated with the growth-arrested state and PK55 is distinct from PK-A.

L4 ANSWER 25 OF 26 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
ACCESSION NUMBER: 1991:407426 BIOSIS
DOCUMENT NUMBER: PREV199192074391; BA92:74391
TITLE: PHOSPHORYLATION OF THE INSULIN RECEPTOR BY A CASEIN KINASE I-LIKE ENZYME.
AUTHOR(S): RAPUANO M [Reprint author]; ROSEN O M
CORPORATE SOURCE: 18 HILLSIDE AVE, NEWTON, NJ 07860, USA
SOURCE: Journal of Biological Chemistry, (1991) Vol. 266, No. 20, pp. 12902-12907.
CODEN: JBCHA3. ISSN: 0021-9258.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 11 Sep 1991
Last Updated on STN: 11 Sep 1991
AB A serine protein kinase that phosphorylates the β-subunit of the insulin receptor has been partially purified 5,000-fold from HeLa cell membranes. The enzyme has been purifed by ion-exchange and hydroxylapatite chromatography and sucrose gradient centrifugation; it has

an apparent molecular weight of 36,000-43,000 daltons. It exhibits the following properties: it catalyzes the phosphorylation of the autophosphorylated insulin receptor more efficiently than the nonautophosphosphorylated insulin receptor, it decreases insulin receptor phosphorylation of tubulin but has no effect on insulin receptor phosphorylation of microtubule-associated proteins or reduced and carboxyamidomethylated lysozyme. the enzyme also phosphorylates casein and ribosomal protein S6 and shares many properties with casein kinase I: similar molecular weight, utilization of ATP but not GTP as phosphoryl donor, and sensitivity to inhibition by heparin. Based on several criteria the reeptors serine kinase is neither protein kinase C nor the cAMP-dependent protein kinase.

L4 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:674535 HCAPLUS
DOCUMENT NUMBER: 115:274535
TITLE: cdc2 Phosphorylation is required for its interaction with cyclin
AUTHOR(S): Ducommun, Bernard; Brambilla, Paolo; Felix, Marie Anne; Franza, B. Robert, Jr.; Karsenti, Eric; Draetta, Giulio
CORPORATE SOURCE: Diff. Program., Eur. Mol. Biol. Lab., Heidelberg, D-6900, Germany
SOURCE: EMBO Journal (1991), 10(11), 3311-19
CODEN: EMJODG; ISSN: 0261-4189
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Activation of the cdc2 protein kinase at different stages of the cell cycle is regulated by post-translational modifications and interactions with cyclins. It is shown that in vitro translated human cdc2 binds very poorly to A and B cyclins, unless it has been preincubated with a Xenopus egg extract This results in the phosphorylation of cdc2 which allows binding to cyclins. The replacement of Thr161, a residue conserved and phosphorylated in other protein kinase, with valine inhibits cdc2 association with A and B cyclins. In addition, mutations in the amino-terminus of cdc2 and within the conserved PSTAIR region strongly inhibit binding. The Thr161Val mutation causes a lethal phenotype in the fission yeast Schizosaccharomyces pombe, while replacement of Thr161 with glutamic acid, potentially mimicking phosphorylation, causes uncoordination of mitosis and multiple cytokinesis. These results suggest that a threonine phosphorylation/dephosphorylation cycle is involved in regulating cdc2 function.

```
=> s "h2520-59"
L5            0 "H2520-59"

=> e boylan j f/au
E1            1     BOYLAN J D/AU
E2            9     BOYLAN J E/AU
E3          165 --> BOYLAN J F/AU
E4           31     BOYLAN J G/AU
E5           53     BOYLAN J J/AU
E6          169     BOYLAN J M/AU
E7           22     BOYLAN J P/AU
E8            5     BOYLAN J R/AU
E9            1     BOYLAN J S/AU
E10           8     BOYLAN J T/AU
E11         114     BOYLAN J W/AU
E12          14     BOYLAN JACK B/AU

=> s e3
L6          165 "BOYLAN J F"/AU
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=> e bowers a j/au
E1            4      BOWERS A G/AU
E2           10      BOWERS A H/AU
E3           23 --> BOWERS A J/AU
E4            9      BOWERS A K/AU
E5            9      BOWERS A L/AU
E6            3      BOWERS A M/AU
E7            7      BOWERS A N/AU
E8            2      BOWERS A P/AU
E9          110      BOWERS A R/AU
E10           2      BOWERS A W/AU
E11           2      BOWERS AL/AU
E12           2      BOWERS ALAN/AU

=> s e3
L7           23 "BOWERS A J"/AU

=> s l6 or l7
L8          180 L6 OR L7

=> d his

     (FILE 'HOME' ENTERED AT 09:51:16 ON 22 DEC 2004)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 09:51:41 ON 22 DEC 2004
L1        420824 S SERINE OR THREONINE
L2         43962 S L1(A)KINASE?
L3            26 S HUMAN (A)L2
L4            26 DUP REM L3 (0 DUPLICATES REMOVED)
L5             0 S "H2520-59"
                 E BOYLAN J F/AU
L6           165 S E3
                 E BOWERS A J/AU
L7            23 S E3
L8           180 S L6 OR L7

=> s l2 and l8
L9             1 L2 AND L8

=> d all

L9    ANSWER 1 OF 1  BIOTECHDS COPYRIGHT 2004 THE THOMSON CORP. on STN
AN    2003-08594  BIOTECHDS
TI    Novel human serine threonine kinase member,
      designated h2520-40 polypeptide useful for treating immune disorders,
      angiogenesis, diabetes mellitus, psoriasis, hepatitis, cirrhosis,
      rheumatoid arthritis, cancer;
         virus vector-mediated recombinant fusion protein gene transfer and
         expression in host cell, transgenic animal and bioinformatics for
         disease diagnosis and gene therapy
AU    BOYLAN J F; BOWERS A J
PA    AMGEN INC
PI    WO 2002092760 21 Nov 2002
AI    WO 2002-US14460 9 May 2002
PRAI  US 2001-290276 10 May 2001; US 2001-290276 10 May 2001
DT    Patent
LA    English
OS    WPI: 2003-120668 [11]
AB    DERWENT ABSTRACT:
      NOVELTY - An isolated human serine threonine kinase
      member, designated h2520-40 polypeptide (I) comprising 435 residue amino
      acid sequences (S1), given in specification, or mature sequence, ortholog
      or fragment of (S1), sequence having 70 % identity to (S1),
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allelic/splice variant of (S1), or (S1) with substitutions, insertions, deletions, C-terminal or N-terminal truncation, having activity of (I), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) an isolated nucleic acid molecule (II) comprising a 1750 base pair sequence (S2), given in the specification, the h2520-40 encoding portion of (S2) comprising nucleotides 405-1709, a nucleotide sequence encoding (I), allelic variant or splice variant of (S2), fragment of (S2) comprising at least 16 nucleotides, sequence which hybridizes under moderately or highly stringent conditions to the complement of them, or sequence complementary to the sequences; (2) a vector (III) comprising (II); (3) a host cell (IV) comprising (III); (4) production (M1) of (I); (5) a polypeptide produced by M1; (6) an isolated polypeptide encoded by (II); (7) an antibody (V) or its fragment that specifically binds (I), produced by immunizing an animal with a peptide comprising (S1); (8) a selective binding agent (VI) or its fragment that specifically binds (I), comprising a complementarity determining region with specificity for a polypeptide having (S1), and produced by immunizing an animal with a polypeptide comprising (S1); (9) a hybridoma that produces a monoclonal antibody or (VI) that binds (I); (10) a composition (VII) comprising (I) or (II) and a formulation agent; (11) a polypeptide (VIII) comprising a derivative of (I); (12) a viral vector comprising (II); (13) a fusion polypeptide (IX) comprising (I) fused to a heterologous amino acid sequence; (14) a device comprising a membrane suitable for implantation, and cells encapsulated within the membrane, where the cells secrete (I) and the membrane is permeable to the protein and impermeable to materials detrimental to the cells, or the h2520-40 polypeptide encapsulated within the membrane, where the membrane is permeable to the polypeptide; (15) a transgenic non-human mammal comprising (II); (16) a diagnostic reagent comprising a detectably labeled polynucleotide encoding (S1), or its fragment, allelic or splice variants or homolog; and (17) an antagonist of h2520-40 polypeptide activity selected from h2520-40 selective binding agents, small molecules, antisense oligonucleotides, and peptides or their derivatives having specificity for h2520-40 polypeptide.

WIDER DISCLOSURE - (1) a kit comprising h2520-40 selective binding agents and other reagents useful for detecting h2520-40 levels in biological samples; and (2) kits containing single and multi-chambered pre-filled syringes.

BIOTECHNOLOGY - Preparation: (I) is prepared by culturing a eukaryotic or prokaryotic cell under suitable conditions to express the polypeptide, and optionally isolating the polypeptide from the culture. The nucleic acid molecule comprises promoter DNA other than the promoter DNA for the native h2520-40 polypeptide operatively linked to the DNA encoding the h2520-40 polypeptide. (All claimed.) Preferred Polypeptide: In (I), the amino acid at position 88 of (S1) is valine, isoleucine, methionine, leucine, phenylalanine, alanine, or norleucine, at position 96 of (S1) threonine or serine, at position 101 of (S1) is alanine, valine, leucine or isoleucine, at position 121 of (S1) is glutamic acid or aspartic acid, at position 130 of (S1) is histamine, asparagine, glutamine, lysine or arginine, at position 133 of (S1) is isoleucine, leucine, valine, methionine, alanine, phenylalanine or norleucine, at position 156 of (S1) is glycine, proline or alanine, at position 183 of (S1) is alanine, valine, leucine or isoleucine, at position 195 of (S1) arginine, lysine, glutamine or asparagine, at position 215 of (S1) is phenylalanine, leucine, valine, isoleucine, alanine, or tyrosine, at position 231 of (S1) is cysteine, serine or alanine, at position 288 of (S1) is tyrosine, tryptophan, phenylalanine, threonine or serine, or at position 295 of (S1) is serine, threonine, alanine or cysteine. (VIII) is covalently modified with a water-soluble polymer such as polyethylene glycol (PEG), monomethoxy-PEG, dextran, cellulose, poly-(N-vinyl pyrrolidone) PEG, propylene glycol homopolymers, polypropylene oxide/ethylene oxide co-polymers, polyoxyethylated polyols, or polyvinyl alcohol. In (IX), the heterologous amino acid sequence is an IgG constant

domain or its fragment. Preferred Nucleic Acid: In (II), the percent identity is determined using a computer program such as GAP, BLASTP, BASTN, FASTA, BLASTA, BLASTX, BestFit, and the Smith-Waterman algorithm. Preferred Antibody: (V) is a monoclonal antibody. Preferred Agent: (VI) is an antibody such as humanized antibody, human antibody, polyclonal antibody, monoclonal antibody, chimeric antibody, CDR-grafted antibody, antiidiotypic antibody, or their fragments or a variable region fragment (e.g. a Fab or Fab' fragment). (VI) is bound to a detectable label, and antagonizes h2520-40 polypeptide biological activity. Preferred Composition: In (VII), the formulation agent is a carrier, adjuvant, solubilizer, stabilizer or anti-oxidant. The nucleic acid molecule is contained in a viral vector. Preferred Reagent: In the diagnostic reagent, the labeled polynucleotide is a first-strand cDNA.

ACTIVITY - Vulnerary; Antidiabetic; Antipsoriatic; Hepatotropic; Antiinflammatory; Osteopathic; Antiarthritic; Antirheumatic; Cytostatic. No biological data is given.

MECHANISM OF ACTION - Gene therapy; Cell therapy.

USE - (I) is useful for identifying a compound which binds to (I), and treating, preventing or ameliorating a medical condition in a mammal resulting from decreased levels of h2520-40 polypeptide. (I) is also useful for diagnosing a pathological condition or a susceptibility to a pathological condition in a subject caused by or resulting from abnormal levels of h2520-40 polypeptide, by determining the presence or amount of expression of (I), and comparing the level of h2520-40 polypeptide in a biological, tissue or cellular sample from normal subjects or the subject at an earlier time. (II) is useful for modulating levels of a polypeptide in a mammal. (IV) is useful for identifying candidate inhibitors or stimulators of h2520 polypeptide activity or production, by exposing (IV) to the inhibitors or stimulators, measuring h2520-40 polypeptide activity or production in the cell, and comparing activity or production of h2520-40 in cells exposed to the inhibitor or stimulator with activity in cells not exposed to the inhibitor or stimulator. (V) is useful for detecting or quantitating the amount of h2520-40 in a sample, by detecting the binding of (V) or its fragment to the h2520-40 polypeptide. (VI) is useful for treating, preventing, or ameliorating disease, condition or disorder. (X) is useful for detecting the presence of h2520-40 nucleic acids in a biological (e.g. tissue or cellular) sample, by contacting the biological sample with (X), detecting hybridization of (X) with h2520-40 nucleic acids in the biological sample, and comparing the level of hybridization with the level of hybridization between a known concentration of h2520-40 nucleic acid and (X). The polynucleotide molecule is DNA or RNA. (All claimed.) h2520-40 is useful as a small molecule inhibitor target. (I) is useful for identifying molecules that are agonists or antagonists of h2520-40 polypeptide, identifying receptors or their binding partners and as immunogen for producing antibodies. (II) is useful as hybridization probes to screen cDNA, genomic or synthetic DNA libraries for related sequences, to identify transformed cells, to map the locations of the h2520-40 gene and related genes on chromosomes, as a diagnoses/prognosis marker, and as a surrogate marker to monitor tumor growth and treatment success. The non-human animals are useful for drug candidate screening. (V) is useful for detection and quantitation of h2520-40 polypeptides, and for in vivo imaging. (I), (II) and (V) are useful for treating hyperproliferative pathological conditions such as immune disorders, angiogenesis, vasculogenesis, wound healing, diabetes mellitus including diabetes type I and type II, psoriasis, liver diseases such as hepatitis and cirrhosis, osteoporosis, inflammatory conditions such as osteoarthritis and rheumatoid arthritis, pregnancy and cancer.

ADMINISTRATION - Administered at a dose of 0.1-100 mg/kg, by oral, intravenous, intraperitoneal, intracerebral, intracerebroventricular, intramuscular, intra-ocular, intraarterial, intraportal, or intralesional route. No dosage is given.

EXAMPLE - Cloning of human serine **threonine kinase** member, designated h2520-40. A search was first performed on the Celera

genomic database to identify potential kinases. This search identified an expression sequence tag (EST) sequence, as a putative serine threonine (ser/thr) kinase. Using this sequence, polymerase chain reaction (PCR) primers were designed to screen human cDNA libraries. A 5' forward primer 5'GCCTTGGGGGTGCTTTTG3' and 3' reverse primer 5'TTTCTTCTTCCTTGAGAGTGCTGG3' were used to generate a 298 base pair PCR product. Subsequently, a 3' rapid amplification of cDNA ends (RACE) primer 5'CTGAACACTTTCTGTGGGTC3'was designed and used to screen the Marathon-Ready (RTM) Human Ling cDNA kit in order to identify the potential 3' end of the ser/thr kinase gene. The resulting PCR products were TA cloned into the TA cloning vector pCR2.1 TOPO and transformed into TOPO10 Escherichia coli. Positive clones were screened by detecting the presence of a 298 base pair product by PCR. The PCR reaction products were separated electrophoretically and 4 positive wells were scored by the presence of a 298 base pair band. The plasmid DNA was prepared from each of the positive clones and both strands of cDNA were sequenced, identifying the putative 3' end of the ser/thr kinase gene. The 3'sequence was then used to identify the Caenorhabditis elegans predicted protein F49C5.4 through a BLAST search. This predicted protein was then used to search the human EST database, which revealed a human EST (R59486) with a high homology with the potential 5' end of the ser/thr kinase gene. The resulting sequence (R59486) was then used to design PCR primer pairs to synthesize a 1300 base pair product. The 5' forward primer (5'TCAAGGGAAATAGCAAACAG3') and 3' reverse primer (5'GGCAGGGCTCTGACACG3') were used to screen the Marathon-Ready (RTM) human hypothalamus cDNA kit using PCR. The resulting PCR products were TA cloned into pCR2.1 TOPO. Nested PCR was then carried out on positive colonies. The PCR reaction products were separated electrophoretically and 4 positive wells were scored by the presence of a 750 base pair band. The plasmid DNA was prepared and both strands of the cDNA insert were sequenced. Sequence homology in the putative kinase domain revealed homology with other members of the ser/thr protein kinase family. For full length cloning of the gene, the 5'forward primer (5'TCAAGGGAAATAGCAAACAG3'), and 3' reverse primer (5'AGCAACAATCATCTTGGTTAGTTAC3') were used to screen the Marathon-Ready (RTM) human hypothalamus cDNA kit using PCR. The resulting PCR products were TA cloned into pCR2.1 TOPO. Nested PCR was then carried out on positive colonies. The PCR reaction products were separated electrophoretically and six positive wells were scored by the presence of a 750 base pair band. The plasmid DNA was prepared and both strands of the cDNA insert were sequenced. The cDNA sequence encoding the putative ser/thr kinase polypeptide, denoted as h2520-40, was determined. The h2520-40 gene was 1750 nucleotides in length with a 1305 nucleotide coding region. This open reading frame encoded a 435 amino acid polypeptide. (74 pages)

CC THERAPEUTICS, Protein Therapeutics; GENETIC TECHNIQUES and APPLICATIONS, Gene Expression Techniques and Analysis; GENETIC TECHNIQUES and APPLICATIONS, Genomic Technologies; GENETIC TECHNIQUES and APPLICATIONS, Transgenic Animals and Animal Models; BIOINFORMATICS and ANALYSIS, Software; BIOINFORMATICS and ANALYSIS, Databases; BIOMANUFACTURING and BIOCATALYSIS, Animal/Plant Cell Culture; PHARMACEUTICALS, Antibodies; DIAGNOSTICS, Molecular Diagnostics; DIAGNOSTICS, Antibody-Based Diagnostics; DISEASE, Cancer; DISEASE, Liver; DISEASE, Autoimmune Disease; DISEASE, Other Diseases; THERAPEUTICS, Gene Therapy

CT HUMAN RECOMBINANT SERINE **THREONINE KINASE** H2520-40
FUSION PROTEIN PREP., VIRUS VECTOR-MEDIATED GENE TRANSFER, EXPRESSION IN HOST CELL, HUMANIZED ANTIBODY, HUMAN ANTIBODY, POLYCLONAL ANTIBODY, CHIMERIC ANTIBODY, CDR-GRAFTED ANTIBODY, ANTI-IDIOTYPE, FAB, FAB' FRAGMENT, MONOCLONAL ANTIBODY, HYBRIDOMA CELL CULTURE, TRANSGENIC ANIMAL, ANTAGONIST, AGONIST, ANTISENSE OLIGONUCLEOTIDE, COMPUTER BIOINFORMATIC SOFTWARE, DRUG SCREENING, DNA PROBE, MAPPING, DATABASE, EXPRESSED SEQUENCE TAG, POLYMERASE CHAIN REACTION, DNA PRIMER, CDNA LIBRARY, RAPID AMPLIFICATION OF CDNA ENDS, ELECTROPHORESIS, APPL. IMMUNE DISORDER, ANGIOGENESIS, VASCULOGENESIS, VULNERARY, TYPE-I, TYPE-II DIABETES

MELLITUS, PSORIASIS, LIVER DISEASE, HEPATITIS, CIRRHOSIS, OSTEOPOROSIS, INFLAMMATORY, OSTEOARTHRITIS, RHEUMATOID ARTHRITIS, PREGNANCY, CANCER PREVENTION, PROGNOSIS, DIAGNOSIS, GENE THERAPY MAMMAL ENZYME ANTIBODY ENGINEERING BIOINFORMATICS HYBRIDIZATION DNA AMPLIFICATION DNA LIBRARY CHROMOSOME-6 6P21.3 TUMOR DNA SEQUENCE PROTEIN SEQUENCE (22, 14)

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(FILE 'HOME' ENTERED AT 09:51:16 ON 22 DEC 2004)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:51:41 ON 22 DEC 2004

L1	420824	S	SERINE OR THREONINE
L2	43962	S	L1(A)KINASE?
L3	26	S	HUMAN (A)L2
L4	26	DUP REM	L3 (0 DUPLICATES REMOVED)
L5	0	S	"H2520-59"
		E	BOYLAN J F/AU
L6	165	S	E3
		E	BOWERS A J/AU
L7	23	S	E3
L8	180	S	L6 OR L7
L9	1	S	L2 AND L8

	Issue Date	Pages	Document ID	Title
1	20041216	78	US 20040253669 A1	Regulation of human dcamkl1-like serine/threonine protein kinase
2	20041216	30	US 20040253226 A1	Compositions and methods for inhibiting endothelial cell proliferation and regulating angiogenesis using serine proteases
3	20041202	75	US 20040241796 A1	Regulation of human nek-like serine/threonine protein kinase
4	20041021	53	US 20040209327 A1	Regulation of human transmembrane serine protease
5	20040916	93	US 20040180038 A1	Effectors of innate immunity determination
6	20040909	33	US 20040175815 A1	Regulation of human p78-like serube/threonine kinase
7	20040715	67	US 20040137593 A1	Regulation of human serine/threonine protein kinase-like protein
8	20040603	47	US 20040105853 A1	Regulation of human epithin-like serine-protease
9	20040527	35	US 20040101529 A1	REGULATION OF HUMAN SERINE-THREONINE PROTEIN KINASE
10	20040513	42	US 20040091992 A1	PAK4 - related antibodies
11	20040422	55	US 20040077049 A1	Regulation of human wee1-like serine/threonine protein kinase
12	20040325	61	US 20040058342 A1	Novel kallikrein gene
13	20040311	75	US 20040048266 A1	Regulation of human membrane-type serine protease

	Issue Date	Pages	Document ID	Title
14	20040304	66	US 20040043375 A1	Regulation of human serine-threonine protein kinase
15	20040212	37	US 20040029245 A1	Regulation of human serine-palmitoyltransferase-like enzyme
16	20040115	47	US 20040009940 A1	Gene delivery formulations and methods for treatment of ischemic conditions
17	20040115	651	US 20040009907 A1	Proteins and nucleic acids encoding same
18	20040101	85	US 20040001803 A1	Effectors of innate immunity determination
19	20040101	359	US 20040001801 A1	Conjugates activated by cell surface proteases and therapeutic uses thereof
20	20031204	73	US 20030224430 A1	Regulation of human eosinophil serine protease 1-like enzyme
21	20031106	156	US 20030207799 A1	GLIAL MITOGENIC FACTORS, THEIR PREPARATION AND USE
22	20031023	13	US 20030199042 A1	Novel morphogenic protein
23	20030918	24	US 20030175941 A1	Regulation of human serine racemase enzyme
24	20030918	46	US 20030175794 A1	Compositions for isolating a cDNA encoding a membrane-bound protein
25	20030911	35	US 20030171324 A1	Regulation of human desc1-like serine protease
26	20030904	45	US 20030166066 A1	DNA encoding a human serotonin receptor (5-HT4B) and uses thereof
27	20030731	33	US 20030143216 A1	Chitinase chitin-binding fragments

	Issue Date	Pages	Document ID	Title
28	20030724	206	US 20030138881 A1	Novel co-stimulatory molecules
29	20030717	91	US 20030134298 A1	Nucleic acid molecules encoding a transmembrane serine protease 20, the encoded polypeptides and methods based thereon
30	20030515	28	US 20030092664 A1	Regulation of human epithin-like serine protease
31	20030501	22	US 20030083470 A1	Transcriptional regulator
32	20030327	54	US 20030059918 A1	Regulation of human serine/threonine protein kinase
33	20030213	63	US 20030032791 A1	Novel melanocortin-4 receptor sequences and screening assays to identify compounds useful in regulating animal appetite and metabolic rate
34	20030206	41	US 20030027756 A1	SAK: modulation of cellular proliferation for treatment of cancer
35	20030123	23	US 20030017570 A1	CHITINASE MATERIALS AND METHODS
36	20021017	91	US 20020150977 A1	TNF receptor-like molecules and uses thereof
37	20021010	71	US 20020146407 A1	Regulation of human eosinophil serine protease 1- like enzyme
38	20020926	28	US 20020137668 A1	Compositions and methods for inhibiting endothelial cell proliferation and regulating angiogenesis using cancer markers
39	20020815	63	US 20020110808 A1	Toxicant-induced differential gene expression

	Issue Date	Pages	Document ID	Title
40	20020523	56	US 20020061850 A1	Regulation of human transmembrane serine protease
41	20040511	50	US 6734006 B2	Regulation of human transmembrane serine protease
42	20040406	23	US 6716579 B1	Gene specific arrays, preparation and use
43	20031223	41	US 6667168 B1	PAK4, a novel gene encoding a serine/threonine kinase
44	20030909	44	US 6617434 B1	Identificiaton of differentially methylated and mutated nucleic acids
45	20030826	12	US 6610510 B1	Morphogenic proteins
46	20030826	43	US 6610485 B1	Methods for isolating a cDNA encoding a membrane-bound protein
47	20030408	31	US 6544947 B2	Compositions and methods for inhibiting endothelial cell proliferation and regulating angiogenesis using cancer markers
48	20030114	15	US 6506735 B1	Optimized antisense oligonucleotides complementary to DNA methyltransferase sequences
49	20030107	25	US 6504009 B1	Transcriptional regulator
50	20021126	132	US 6485911 B1	Methods for determining risk of developing alzheimer's disease by detecting mutations in the presenilin 2 (PS-2) gene
51	20020917	38	US 6451555 B1	Nucleic acids that encode testes specific protease and detect DNA hypomethylated in cancer cells
52	20020813	42	US 6432655 B1	Method of obtaining compositions

	Issue Date	Pages	Document ID	Title
53	20020702	26	US 6413513 B1	Compositions and methods for inhibiting endothelial cell proliferation and regulating angiogenesis using cancer markers
54	20020604	34	US 6399571 B1	Chitinase chitin-binding fragments
55	20020423	41	US 6376243 B1	DNA encoding a human serotonin receptor (5-HT4B) and uses thereof
56	20020416	33	US 6372212 B1	Chitinase materials and methods
57	20020326	66	US 6362319 B1	Glial cell line-derived neurotrophic factor
58	20020312	24	US 6355777 B1	P43 antigen for the immunodiagnosis of canine ehrlichiosis and uses thereof
59	20011127	29	US 6323000 B1	Variant human .alpha.7 acetylcholine receptor subunit, and methods of production and uses thereof
60	20011009	38	US 6300087 B1	DNA encoding a human serotonin receptor (5-HT4B) and uses thereof
61	20010703	37	US 6255074 B1	Abl-interactor protein
62	20010529	637	US 6239264 B1	Genomic DNA sequences of ashbya gossypii and uses thereof
63	20010515	161	US 6232286 B1	Methods of stimulating mitogenesis in glial cells using glial mitogenic factors
64	20010320	162	US 6204241 B1	Method for treating nervous system pathophysiologies using glial growth factors
65	20010313	32	US 6200951 B1	Chitinase chitin-binding fragments

	Issue Date	Pages	Document ID	Title
66	20010227	162	US 6194377 B1	Methods for treating nervous system pathophysiologies using glial growth factors
67	20001114	220	US 6147190 A	Glial mitogenic factors, their preparation and use
68	20000725	68	US 6093802 A	Glial cell line-derived neurotrophic factor
69	20000704	38	US 6083749 A	DNA encoding a human serotonin receptor (5-HT.sub.4B) and uses thereof
70	20000523	17	US 6066625 A	Optimized antisense oligonucleotides complementary to DNA methyltransferase sequences
71	20000411	43	US 6048706 A	Human PAK65
72	20000201	33	US 6020135 A	P53-regulated genes
73	20000111	39	US 6013500 A	PAK4, a novel gene encoding a serine/threonine kinase
74	19991116	43	US 5985585 A	Processes using a human serotonin receptor (5-HT.sub.4B)
75	19991109	46	US 5981248 A	Mammalian cell death preventing kinase, DPK
76	19990209	50	US 5869265 A	Ileal bile acid transporter compositions and methods
77	19981222	105	US 5852177 A	Basic fibroblast growth factor (bFGF) muteins
78	19980811	161	US 5792849 A	Glial mitogenic factors, their preparation and use
79	19980210	155	US 5716930 A	Glial growth factors
80	19971216	42	US 5698445 A	Human PAK65
81	19971216	42	US 5698428 A	Human PAK65

	Issue Date	Pages	Document ID	Title
82	19970617	67	US 5639616 A	Isolated nucleic acid encoding a ubiquitous nuclear receptor
83	19970415	157	US 5621081 A	Glial mitogenic factors
84	19970225	155	US 5606032 A	Process for preparing glial mitogenic factors
85	19970225	43	US 5605825 A	Human PAK65
86	19970211	154	US 5602096 A	Method of using a secretable glial mitogenic factor to induce acetylcholine receptor synthesis
87	19961231	37	US 5589358 A	Ileal bile acid transporter compositions and methods
88	19960813	18	US 5545536 A	Colony-stimulating factor derivatives
89	19960625	155	US 5530109 A	DNA encoding glial mitogenic factors
90	19960521	43	US 5518911 A	Human PAK65
91	19951107	31	US 5464943 A	DNA encoding glycosylated FGF and production thereof
92	19941101	31	US 5360896 A	Glycosylated FGF
93	19930525	9	US 5213977 A	Serine protease from cytotoxic killer cells
94	19920728	9	US 5134065 A	Tissue plasminogen activator inhibitor and method of purification
95	19910521	14	US 5017489 A	Cytotoxic T lymphocte serine esterase and method for stimulation and inhibition
96	19901127	10	US 4973555 A	Human serine protease gene
97	19880412	17	US 4737462 A	Structural genes, plasmids and transformed cells for producing cysteine depleted muteins of interferon-.beta.

	Issue Date	Pages	Document ID	Title
1	20041209	34	US 20040248286 A1	Nucleic acid molecules that are differentially regulated in a bipolar disorder and uses thereof
2	20040115	484	US 20040009479 A1	Methods and compositions for diagnosing or monitoring auto immune and chronic inflammatory diseases
3	20040108	241	US 20040005700 A1	Poroplasts
4	20031218	240	US 20030232335 A1	Minicell-based screening for compounds and proteins that modulate the activity of signalling proteins
5	20031204	240	US 20030224444 A1	Antibodies to native conformations of membrane proteins
6	20031204	238	US 20030224369 A1	Reverse screening and target identification with minicells
7	20031127	242	US 20030219888 A1	Minicell-based bioremediation
8	20031127	242	US 20030219408 A1	Methods of making pharmaceutical compositions with minicells
9	20031113	243	US 20030211599 A1	Minicell-based delivery agents
10	20031113	239	US 20030211086 A1	Minicell-based selective absorption
11	20031106	243	US 20030207833 A1	Pharmaceutical compositions with minicells
12	20031030	242	US 20030203481 A1	Conjugated minicells
13	20031030	243	US 20030203411 A1	Methods of minicell-based delivery

	Issue Date	Pages	Document ID	Title
14	20031030	242	US 20030202937 A1	Minicell-based diagnostics
15	20031023	243	US 20030199089 A1	Membrane to membrane delivery
16	20031023	149	US 20030199088 A1	Minicell-based gene therapy
17	20031023	243	US 20030199005 A1	Solid supports with minicells
18	20031023	240	US 20030198996 A1	Minicell libraries
19	20031023	242	US 20030198995 A1	Forward screening with minicells
20	20031016	243	US 20030194798 A1	Minicell compositions and methods
21	20031016	244	US 20030194714 A1	Minicell-based transformation
22	20031009	242	US 20030190749 A1	Minicell-producing parent cells
23	20031009	242	US 20030190683 A1	Minicell-based rational drug design
24	20031009	242	US 20030190601 A1	Target display on minicells
25	20030904	242	US 20030166279 A1	Minicell-based transfection
26	20030904	241	US 20030166099 A1	Minicells comprising membrane proteins
27	20030619	63	US 20030113897 A1	Mutant p21Cip1/WAF1 and cell growth control and cell growth control
28	20030529	20	US 20030099685 A1	Osteopontin coated surfaces and methods of use

	Issue Date	Pages	Document ID	Title
29	20020725	43	US 20020099004 A1	Inhibition of invasive remodelling
30	20040309	74	US 6703233 B1	Plasmid maintenance system for antigen delivery
31	20030121	18	US 6509026 B1	Osteopontin coated surfaces and methods of use
32	20011204	62	US 6326527 B1	Method for altering the nutritional content of plant seed
33	20010306	37	US 6197583 B1	Therapeutic compounds
34	19991109	21	US 5981830 A	Knockout mice and their progeny with a disrupted hepsin gene
35	19991005	35	US 5962635 A	Therapeutic compounds

	L #	Hits	Search Text
1	L1	56238	serine or threonine
2	L2	452830	human
3	L3	688006	clon$3 or express$3 or recombinant
4	L4	9366	l1 same l2
5	L5	3837	l3 same l4
6	L6	0	"h2520-59"
7	L7	55875	hybridiz$3
8	L8	97	l5 same l7
9	L9	15920	BOYLAN BOWERS
10	L10	35	l5 and l9